Before the
Federal Communications Commission
Washington D.C. 20554

In the Matter of   )
)
Telecommunications Relay Services and   )
Speech-to-Speech Services for   ) CG Docket No. 03-123
Individuals with Hearing and Speech   )
Disabilities   )
)
Access to Emergency Services   )
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COMMENTS OF
COMMUNICATION SERVICE FOR THE DEAF

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        February 22, 2006

TABLE OF CONTENTS

SUMMARY

As Internet relay and VRS grows in popularity, CSD agrees that a solution for swift and effective emergency call handling though these services must be adopted as quickly as possible. Deaf and hard of hearing individuals need the same assurance that they will have access to police, fire, and medical assistance over Internet-enabled relay services as do individuals who use voice over the Internet (VoIP) services. In working toward this objective, the FCC must ensure that emergency solutions are compatible and standardized across all VRS and Internet-based relay providers, to avoid confusion and delay for deaf and hard of hearing consumers. The Commission must also rely heavily on the input of relay users in defining these emergency handling solutions.

In order to achieve consistency in emergency access, the FCC should ban practices that impose any form of block on VRS calls – whether on video equipment or Internet routers. Such exclusivity policies place significant and dangerous restraints on the ability of consumers to make outgoing emergency calls, and can create insurmountable barriers to the receipt of return (incoming) calls from a PSAP. In addition, the FCC should also ensure the ability of PSAPs to make return calls to IP-based relay users by requiring that these users have telephone numbers that are linked to the North American Numbering Plan (NANP). Because consumers will come to expect Internet-based relay services to function like other relay services, PSAPs

must also be able to return calls when they are disconnected. Currently, there is no consistent way for PSAPs to identify and access disconnected VRS and Internet-based relay users in a manner that is comparable to accessing individuals whose VoIP phones are linked to the NANP.

CSD believes that a user location registration system, so long as it is optional for relay users, may assist in both the short and long term implementation of 911 services for VRS and Internet-based relay services. If a registration system is adopted, CSD believes that a centralized, neutral entity must be responsible for conducting registration and entering location data in a single, centralized database, to be shared by all VRS and Internet-based relay providers. Moreover, the registration process should not be onerous to consumers. We caution, however, that registration alone will not solve the location determination problem for mobile calls. In the future, an assistive technology such as GPS could be used for this purpose.

CSD also takes the following positions: (1) information acquired during 911 registration should be limited to data necessary to facilitate functionally equivalent 911 service; (2) CSD discourages VRS priority queuing for emergency calls as potentially too over- and under-inclusive, and instead recommends use of a separate Internet link to dedicated VRS staff trained to handle 911 calls; (3) 911 registration can be achieved within six months to one year, though it will likely take at least five years to effectively handle mobile IP-based relay calls; and (4) the costs of implementing

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emergency call handling for Internet relay and VRS calls, including the costs

of developing a centralized registration system, should be reimbursable

through the NECA Interstate TRS Fund.

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COMMENTS OF
COMMUNICATION SERVICE FOR THE DEAF, INC.

I. Introduction

Communication Service for the Deaf, Inc. (CSD) submits these

comments in response to the FCC's Notice of Proposed Rulemaking (NPRM)

on access to emergency services for Internet-based forms of

telecommunications relay services, specifically video relay service (VRS) and

Internet Protocol relay service.[1] CSD is a private, non-profit organization

that provides programs and services intended to increase communication,

independence, productivity, and self-sufficiency for all individuals who are

deaf and hard of hearing through education, counseling, training, and

communication assistance.   CSD also provides telecommunications relay

services (TRS) in over thirty states as a subcontractor to Sprint or through

state-contracted TRS operations call centers. In addition, CSD provides video

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[1] *In the Matter of Telecommunications Relay Services and Speech-to-Speech Services for
Individuals with Hearing and Speech Disabilities*, Notice of Proposed Rulemaking, CG Dkt.
No. 03-123, FCC 05-196 (November 30, 2005).

relay services (VRS) as a subcontractor to Sprint throughout the entire United States and its territories.

CSD applauds the Commission's efforts to ensure that all Americans, including Internet relay and VRS users, have swift and effective access to the nation's emergency 911 services. With the number of Internet relay and VRS minutes rising, and the number of traditional TRS minutes declining, it is especially critical that a solution for these calls be adopted as quickly as possible. The flexibility and mobility offered by IP-based relay services, as well as the lure of being able to converse in sign language through VRS, have attracted a growing constituency of deaf and hard of hearing individuals. In fact, VRS is being adopted as the principal mode of telephone communication by many deaf individuals that use sign language to communicate naturally and in real time. This form of relay service has also afforded many deaf individuals who previously had no way of conducting communication over a distance, including senior citizens and children, an opportunity to finally benefit from the nation's telecommunications technologies.

Just as voice over Internet Protocol (VoIP) users have been making the transition from the public switched telephone network (PSTN) to the Internet, so too have new Internet-based relay technologies caused increasing numbers of deaf and hard of hearing people to replace their PSTN-based telephone devices and services with Internet-based computers and video devices and services. And just like voice telephone users, these deaf and hard

of hearing individuals need assurances that they will have access to police, fire, and medical assistance. In achieving this task, the FCC needs to ensure that solutions are developed that are compatible and standardized across all VRS and Internet-based relay providers, to avoid confusion and delay for users of these services. Traditional relay users can now call any relay center and request to be connected to the most appropriate 911 public safety answering point (PSAP); Internet-based relay users need the same assurance. For these individuals. the solution used by one relay provider must be the same that is used by all providers. The issues presented in this proceeding are complicated ones, both because of the difficulties involved in locating Internet-based relay users, and because the solutions that the FCC adopts may involve significant departures from prior TRS policies and practices – this will be especially true if the FCC opts for user registration. For this reason, CSD urges that the FCC, in devising its emergency handling solutions, rely heavily on the input of relay consumers who will be directly affected by the Commission's decisions.

II. Functionally Equivalent Emergency Access Will Not be Possible So Long as
VRS Blocking is Permitted

In order to achieve consistency and standardization in emergency access, first and foremost, VRS blocking, such as the imposition of contractual and technical blocks on either equipment or routers, must be prohibited. In February of 2005, deaf and hard of hearing consumers

petitioned the FCC to disallow this practice, insisting that it denied

functionally equivalent communication service. The petition specifically

urged the FCC to prohibit any VRS provider receiving compensation for VRS

from the National Exchange Carriers Administration (NECA) from blocking

calls through other relay services. CSD has been among the many national

organizations that have consistently supported this petition. We have joined

hundreds, if not thousands of others who have maintained that such

exclusivity policies can pose extreme dangers and lead to tragedy in

emergency situations.[2]

Specifically, when an emergency occurs, a consumer dialing into a

provider that maintains exclusivity has no way of accessing an alternate

provider if that provider is operating at full capacity; when this occurs, the

consumer has no choice but to wait several minutes for a VRS interpreter to

become available. As the emergency situation worsens and the consumer is

forced to continue waiting, he or she is likely to become increasingly

frightened, distressed and anxious, remaining completely powerless to

summon assistance through other VRS providers whose web addresses

remain blocked.

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[2] CSD is aware that one of the providers that has utilized blocking practices, Sorenson Communications, recently announced its intention to terminate its exclusivity policy as of July 1, 2006. "Sorenson Communications to Allow Users to Call Interpreters of Other Video Relay Service Providers," Sorenson Press Release (February 20, 2006). CSD appreciates this change in policy, but remains concerned about the welfare of VRS users until its effective date. Additionally, an FCC rule that specifically bans blocking is still needed: the decision of one provider to discontinue blocking will not impose obligations on other providers who are still engaging in this practice, or who might adopt an exclusivity policy in the future.

Nor do the FCC's new rules on VRS answer speed alleviate this situation. Those rules merely require VRS providers to answer calls within three minutes, within two and a half minutes five months from now, and within two minutes six months after that. In an emergency, three minutes – and even two minutes – can seem like an eternity. 911 emergency personnel are the first to note the importance of speed in successfully addressing an emergency: response time in *seconds*, not *minutes* is desired. Moreover, the new three minute rule is based on an *average* speed of answer to be calculated on a *monthly* basis. Thus, actual answer times at various times of the day can be far greater than the mandated three minutes (even up to one hour at times) and still allow the VRS provider to "recover" by meeting the service level requirements.[3] This means that in the event of an emergency, if a person makes a call to a provider while that provider is experiencing busy periods – either during periods of low call volume, when fewer interpreters are on duty, or during peak periods, when all available interpreters are

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[3] The following examples demonstrate how this can be achieved:
Practical application of requirement #1 (80% of all calls answered within 3 minutes) = 5 days ASA at 7 minutes, 20 days of ASA at 1.5 minutes, 6 days of ASA at 30 seconds.
Hypothetically for those 5 days of ASA at 7 minutes, callers could be waiting for as long an hour or as short as a few seconds, and the provider would still be in compliance with the 80%/3 minute requirement.
Practical application of requirement #2 (80% of all calls answered within 2.5 minutes) = 3 days ASA at 7 minutes, 25 days of ASA at 1.25 minutes, 8 days of ASA at 30 seconds.
Hypothetically for those 3 days of ASA at 7 minutes, callers could be on hold for as long as an hour or as short as a few seconds, and the provider would still be in compliance with the 80%/2 ½ minute requirement.
Practical application of requirement #3 (80% of all calls answered within 2 minutes) = 6 days ASA at 5 minutes, 18 days of ASA at 30 seconds, 7 days of ASA at 1.4 Minutes.
Hypothetically for those 6 days of ASA at 5 minutes, callers could be on hold for as long as 45 minutes or as short as a few seconds, and the provider would still be in compliance with the 80%/2 minute requirement.

processing calls – that provider may not be able to answer emergency calls for long periods of time, yet still be in compliance with the service level requirements recently imposed by the FCC. Having to wait longer before an emergency call is answered is in fact more likely to occur when there is a national crisis or a weather disaster because during those times the provider will be overwhelmed by an influx of calls. If this occurs, a consumer that is locked into the services of a single VRS provider will be trapped: unable to access another VRS provider, tragically, he or she will be without any recourse to obtain 911 assistance. This regrettable outcome could also occur if the provider's network is unintentionally shut down. Indeed, the FCC's Consumer Advisory Committee (CAC) has unanimously agreed that blocking in this situation "could have disastrous consequences."[4] The CAC has called upon the Commission to cease such blocking practices.

On June 3, 2005, the FCC released a Report and Order directing emergency call handling by interconnected VoIP providers.[5] In that order, the Commission explained that its obligation to promote the safety of life and property of consumers who use interconnected VoIP services stems from its general universal service obligation,[6] as well as "long-established regulatory goals" to promote safety of life and property.[7] Indeed, historically, the FCC

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[4] Report of the TRS Working Group to Federal Communications Commission Consumer Advisory Committee (October 4, 2005).
[5] *In the Matters of IP-Enabled Services, E911 Requirements for IP-Enabled Service Providers*, <u>First Report and Order and Notice of Proposed Rulemaking</u>, WC Dockets No. 04-36, 05-196, FCC 05-116 (June 3, 2005) (*"VoIP E911 R & O"*).
[6] 47 U.S.C. §151.
[7] *VoIP E911 R & O* at ¶29.

has taken a significant interest in facilitating emergency access by all

Americans, including Americans with disabilities. Not only do the FCC's

TRS standards contain explicit mandates designed to ensure prompt

responses to text-based TRS emergency calls, but in past years, the FCC has

taken a number of steps to ensure both TTY and hearing aid access to digital

wireless services in emergency situations.[8] All of these measures are

undermined by policies that allow VRS providers to block customers from

using the services of other VRS providers in the event of an emergency.

III. Like VoIP Users, VRS and Internet Relay Users Need to be Able to Receive
Return Calls from PSAPs

In its interconnected VoIP order, the Commission made clear that its

emergency call handling mandate for providers of VoIP services went beyond

simply transmitting calls to appropriate PSAPs. Because consumers expect

VoIP services to function like regular telephone service, PSAPs must also be

able to return calls when they are disconnected. It is for this reason that the

FCC also required VoIP providers to be capable of providing PSAPs with call-

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[8] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Order, CC Dkt No. 94-102, RM-8143, FCC 97-402, 12 FCC Rcd 22665 (December 23, 1997); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Fourth Report and Order, CC Dkt 94-102, FCC 00-436 (December 14, 2000) (requiring TTY access to wireless E911 services); *Access to Telecommunications Equipment and Services by Persons with Disabilities*, Report and Order, CC Dkt. 87-124, FCC 96-285 (July 3, 1996) (extending mandates for the hearing aid compatibility of wireline phones by classifying all workplace, hospital, nursing home, hotel, motel and prison telephones as "emergency" telephones.")

back numbers that have been assigned to VoIP users from the North American Numbering Plan (NANP).[9]

At present, there are two barriers to achieving this same result for VRS users: VRS blocking and the lack of a uniform VRS numbering system across VRS providers.

A. VRS Blocking on Outgoing Calls Can Prevent Incoming Calls from Reaching Their Destinations

Just as a restricted, non-interoperable VRS system puts significant restraints on the ability of consumers to make outgoing emergency calls, such exclusivity creates difficult, and often insurmountable, barriers to the receipt of return (incoming) calls from a PSAP. Specifically, because this system forces users to acquire multiple video devices to make *outgoing* calls through any VRS provider (i.e., to be able to swiftly make outgoing calls when one provider is operating at capacity), incoming calls that are made by PSAP operators may never reach their intended destination. This is because when a person has more than one VRS device, he or she must leave one device on and turn the other off in order to receive calls over the same Internet port. If the incoming call is directed to the device that is turned off, the call will never be received.[10]

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[9] In fact, the FCC used its plenary numbering authority over the NANP as one of the sources of its authority in its VoIP E911 Order. *VoIP E911 R&O* at ¶33, citing 47 U.S.C. §251(e).
[10] Note that this would be the equivalent of a hearing person having two separate voice telephones and the PSAP dispatcher not having sufficient information to know which phone should be called back.

Moreover, even if the correct receiving device *is* turned on, the individual's Internet router may be configured in a way that directs all unsolicited incoming calls to the other device. If the incoming PSAP emergency call is routed to the wrong device by an Internet router, again the intended recipient will miss the call. Re-configuring the Internet router is complicated; most laypersons would not be able to accomplish this task without a technical expert. In sum, when a person has multiple devices for outgoing calls, there is a real chance that either the router for these devices or the devices themselves may cause the VRS user to miss a return call from a PSAP. A policy that allows this to occur treats VRS users different from VoIP users, who, pursuant to the FCC's June order, must be able to receive return calls from PSAPs at all times.

B. A Uniform and Consistent Numbering Scheme that is Tied to the North American Numbering Plan is Needed for VRS End Users to Receive Functionally Equivalent Emergency Access.

As hearing Americans switch their voice communications from PSTN to VoIP services, they are continuing to be assigned NANP numbers, which can be used to receive call-backs from 911 emergency authorities. Currently, there is no parallel numbering scheme for VRS (or Internet-relay) users. Otherwise stated, there is no consistent way for PSAPs to identify and access disconnected VRS users in a manner that is comparable to accessing individuals whose VoIP phones are linked to the NANP. Instead, each of the eight VRS providers use different end-user identifications systems, with

different provider numbers or extensions. This forces VRS users to list

multiple ways of receiving VRS calls if they want to receive return calls from

hearing individuals. For emergency authorities, this complex and confusing

arrangement can spell disaster.

This situation is complicated even further by the use of "closed" or

restricted LDAPs ("Lightweight Directory Access Protocols") that are used by

some VRS providers, which block access to other providers. These use unique

VRS identifiers are often identical to a person's PSTN telephone number,

though not linked to the NANP. These "telephone numbers" are then cross-

referenced to the dynamic (and ever-changing) IP addresses used by deaf

VRS users. The LDAP ensures that video equipment automatically and

periodically registers with a unique network server to update the IP address

information of its users. However, when LDAPs are "closed," even where a

hearing party has the correct pseudo telephone number assigned to the deaf

VRS user, the hearing person still is not able to establish contact with that

individual through a competing provider because the restrictive provider does

not permit the platforms of those providers to have access to its LDAP. Thus,

it is would be impossible for any customer of a provider using a closed LDAP

to have his or her assigned "telephone number" conveyed to the PSAP, and

receive a call back through a different VRS provider. In this instance, it is

not only the VRS customer that is restricted to the particular provider's

service; the PSAP is restricted as well. So long as VRS providers are

permitted to maintain this type of exclusivity, VRS consumers will never have the comfort of knowing that they can receive a call back from a PSAP to the same extent as their hearing peers. Not only does this violate the mandates of the Americans with Disabilities Act, which require TRS to be functionally equivalent to voice telephone services, it creates an intolerably dangerous situation in which PSAP operators are virtually barred from returning calls to VRS users of the restrictive provider if those operators try to use the services of a VRS competitor.

The only way for an outside caller to "dial around" this type of LDAP is to access the recipient's IP address. But IP addresses are dynamic, i.e., they can change every time a consumer goes on line. For this reason, deaf and hard-of-hearing users rarely know, or even have the capacity to know, what their IP addresses are at any point in time.[11] Moreover, it is extremely complicated for PSAP personnel to ascertain a particular caller's IP address. The 911 operator would need to access sub-screens that are separate from the dialing screen, a lengthy multi-step process that could adversely affect the life and health of the caller when time is of the essence.

In order for PSAPs to be able to call back disconnected emergency VRS (or Internet relay) calls in the same manner as non-relay calls, VRS endpoints need to be allocated telephone numbers that are tied to the NANP. This will allow PSAPs to follow the same procedures for both hearing and

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[11] Static IP addresses, which are more dependable, require additional fees over and above broadband charges, which are already significantly higher than the costs of PSTN service.

11

VRS users, and will allow call-backs in the event that the VRS center that places the call becomes "unavailable" or is the cause of the initial disconnect.

On November 30, 2006 (by written presentation), and again on January 24, 2006 (by in-person presentation), CSD raised the matter of VRS numbering uniformity before the North American Numbering Council. The Industry Numbering Council of the Alliance for Telecommunications Industry Solutions is now investigating ways to link video phone users with the NANP; however, a directive from the FCC will ensure that this becomes a reality.

IV. Emergency Call Handling Can be Achieved Through User Registration

The FCC asks, in light of its June 3rd order directing providers of interconnected VoIP service to register the physical locations of their customers, whether VRS and IP relay users should similarly be required to register a primary location for their calls. CSD believes that registration may assist in both the short and long term implementation of 911 services for VRS and Internet-based relay. Registration can not only serve to match a user to a nominal location, but can also serve to confirm that the address information provided conforms to the Master Street Address Guidelines (MSAG).[12] After being properly informed, customers should be able to choose whether they wish to register their location information, or whether they wish to remain

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[12] The MSAG contains several databases of street names and house number ranges that define emergency service zones (ESZ) and their associated emergency service numbers (ESNs); these enable proper routing of 911 calls.

anonymous (understanding that if they do so, they will not necessarily be able to receive prompt emergency access via Internet-enabled relay services).

An example of a registration process is illustrated in Appendix A. Using this approach, a user's location information could be linked to unique hardware identifiers, such as a MAC address, an IP address, a domain name or other identifiers. It is important to note that not all of the hardware currently in use supports each of these options. Thus, any implementation of a "uniform" identifier should be phased in over time, and allow for current equipment to be grandfathered in.

If a registration system is adopted, CSD believes that a centralized, neutral entity should be responsible for conducting registration and entering location data in a single, centralized database, to be shared by all VRS and Internet-relay providers. In this fashion, users would only need to register one time, and would be able to access any VRS or Internet-relay provider, as all would have access to that information. The registration process itself should not be onerous; consumers should not need to purchase any added equipment, but rather should be able to register either through the centralized entity, or through individual providers, who could feed the information to that single entity. Nor should users have to subscribe to VoIP services for "dual" emergency calls, i.e, it would not be appropriate to require relay users to subscribe to a VoIP service (unless doing so was at no cost),

merely to obtain the ability to forward location and call-back information to a PSAP.

While a registration requirement may no longer violate principles of functional equivalency – because the FCC's recent VoIP order similarly imposes registration requirements on voice telephone users – CSD urges the FCC to gather the input of consumer groups on this matter. One concern that CSD has is that registration alone will not solve the location determination problem for all calls. Internet-relay has permitted mobility for quite some time, and VRS providers are already starting to receive true mobile calls from users in transit. Unlike nomadic users, who could potentially update their location registration information, mobile users present a challenge similar to that faced by cellular telephone providers. An assistive technology such as a global positioning system (GPS) could be used to both validate a registered location and provide a current location for any 911 VRS or Internet-relay call. But any requirement for a GPS-based solute on or other suitable technology needs to be implemented over time, and should exempt existing equipment.[13]

V. Other Matters

1. <u>Privacy.</u> Information collected during registration for purposes of provisioning 911 related services should be limited only to data that is

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[13] Note that while current equipment does not have a geographic assistive technology such as GPS, it does support the matching of specific equipment to a specified and registered location. This will allow users to have access to VRS and emergency services. CSD's proposal to grandfather in existing equipment is analogous to the GPS-type phase-in that is being used for the cellular industry.

necessary to facilitate functionally equivalent 911 service. VRS and Internet relay providers, and their third party vendors, should be required to implement commercially reasonable precautions to insure the privacy of the information, while making it available to appropriate CAs and PSAPs in real-time.

2. <u>Priority Call Queuing.</u> CSD has concerns about deploying a system that relies on giving priority to emergency calls and then bumping non-emergency callers from existing VRS queues. Such systems may be end up being both over- and under-inclusive, and potentially result in abuse and inconsistent handling. Instead, CSD proposes that separately dedicated and trained VRS staff be used for priority answering of 911 calls. As an illustration, users could have access to a separate IP address, such as 911VRS.TV, on their video phone speed-dials. This address could route users to an immediately available dedicated 911 VRS agent who has been trained to take such calls, independent of the regular VRS queue. If this type of a separate queue were implemented, restrictions should be placed on the destination of calls entering that queue, to ensure that only appropriate PSAPs are contacted, rather that other "urgent" destinations, such as doctors' offices, hospitals and close relatives.

3. <u>Timing.</u> CSD believes that registration can be achieved within six months to one year. However, we estimate that five years will be needed for the configuration of end-point hardware, including GPS or other suitable

technology, that can determine a user's location away from his or her primary location.

4. <u>Compensation.</u> The costs of implementing emergency call handling for Internet relay and VRS calls, including the costs of a centralized registration system, should be reimbursable through the NECA Interstate TRS Fund. It should be noted that using a single entity to register users and match locations to appropriate PSAPs can reduce the overall costs of providing 911 services – as compared to incremental costs that would be incurred were individual VRS providers required to independently perform these tasks.

VI. Conclusion

In order to ensure the health and safety of Internet-based relay users along with voice users of VoIP services, the FCC needs to prohibit VRS providers from blocking calls made through other providers, and to require uniform and static end-point VRS and Internet-relay numbers that are linked to the North American Numbering Plan. At present, it appears that user registration is the most appropriate means of handling emergency calls for Internet relay and VRS users. CSD appreciates this opportunity to present its views on Internet-based relay emergency call handling, and urges the Commission to gather input from other consumer groups on how this can be accomplished in the least intrusive and most effective manner. Appendix A follows this text.

Respectfully submitted,

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APPENDIX A

Basic VRS911 Registration Flow Diagram